NMCP COVID-19 Literature Report #56: Friday, 22 January 2021

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Purpose: These weekly reports, published on Fridays, are curated collections of current research, evidence reviews, special reports, grey literature, and news regarding the COVID-19 pandemic that may be of interest to medical providers, leadership, and decision makers.

All reports are available online at https://nmcp.libguides.com/covidreport. Access is private; you will need to use the direct link or bookmark the URL, along with the case-sensitive password "NMCPfinest".

Disclaimer: I am not a medical professional. This document is current as of the date noted above. While I make every effort to find and summarize available data, I cannot cover everything in the literature on COVID-19. Please feel free to reach out with questions, suggestions for future topics, or any other feedback.

Statistics

Global today: 97,645,892 confirmed cases and 2,094,191 deaths in 191 countries/regions

15 JAN 2021: 93,275,676 confirmed cases and 1,997,704 deaths in 191 countries/regions

08 JAN 2021: 88,203,229 confirmed cases and 1,901,510 deaths in 191 countries/regions

United States*   top 5 states by cases

	TOTAL US	CA	TX	FL	NY	IL
Cases	24,633,805	3,100,027	2,209,418	1,613,884	1,293,719	1,086,333
Deaths	410,383	35,797	33,942	24,739	41,787	20,423

*see census.gov for current US Population data; NA: not all data available   JHU CSSE as of 1000 EDT 22 January 2021

Virginia is ranked 17th in cases and 24th in deaths.

Virginia	Total (state)	Chesapeake	Hampton	Newport News	Norfolk	Portsmouth	Suffolk	Virginia Beach
Cases	463,751	14,015	6,420	8,517	11,715	6,028	5,201	23,683
Hospitalizations	20,544	693	221	234	653	490	277	1,007
Deaths	6,002	120	59	79	132	96	103	193

VA DOH as of 1000 EDT 22 January 2021

Upcoming Events

Capitol Hill Steering Committee on Pandemic Preparedness and Health Security webinar:
COVID-19 Vaccination: What is Needed Now to Meet the Needs of the Hardest Hit Populations
in the United States

WHEN: **Thursday, 28 January 2021, 1100 ET**

DETAILS: "As the largest mass vaccination campaign in recent US history is now underway,
the US government and states must play vital roles in boosting confidence in the vaccine,
building demand, and meeting the needs of a diverse set of urban, suburban, and rural
communities. We will discuss how the vaccination campaign is going, what the federal
government can do to support a successful immunization effort, and the systems that need
to be built for future mass vaccination efforts.

The moderated panel will be followed by a Q&A session."

LINK: https://jh.zoom.us/webinar/register/WN_7BJoc-yjRViKpREoFhSbsw

CDC Clinician Outreach and Communication Act (COCA) Call: Treating Long COVID: Clinician
Experience with Post-Acute COVID-19 Care

WHEN: **Thursday, 28 January 2021, 1440–1500 ET**

OVERVIEW: "For some people, the effects of COVID-19 can last well beyond the immediate
illness. Patients and clinicians across the United States are reporting long-term effects of
COVID-19, commonly referred to as long COVID. Symptoms may include cognitive
difficulties, fatigue, and shortness of breath. In some patients, critical illness from COVID-19
may be the cause of persistent symptoms, but many patients with long-term effects had
mild or asymptomatic acute COVID-19 infection. During this COCA Call, presenters will share
their firsthand experiences with treating long COVID, focusing on the pulmonary,
neurologic, and psychological aspects. They will also describe their experiences with
establishing clinics that provide care for patients with these long-term effects."

LINK: https://emergency.cdc.gov/coca/calls/2021/callinfo_012821.asp

Special Reports

US Gov: National Strategy for the COVID-19 Response and Pandemic Preparedness [pdf] (21
January 2021)

"The National Strategy provides a roadmap to guide America out of the worst public health
crisis in a century. It outlines an actionable plan across the federal government to address

the COVID-19 pandemic, including twelve initial executive actions that will be issued by President Biden during his first two days in office: The National Strategy is organized around seven goals:

1. Restore trust with the American people.
2. Mount a safe, effective, and comprehensive vaccination campaign.
3. Mitigate spread through expanding masking, testing, data, treatments, health care workforce, and clear public health standards.
4. Immediately expand emergency relief and exercise the Defense Production Act.
5. Safely reopen schools, businesses, and travel while protecting workers.
6. Protect those most at risk and advance equity, including across racial, ethnic and rural/urban lines.
7. Restore U.S. leadership globally and build better preparedness for future threats.

To execute on the National Strategy, the White House will establish a COVID-19 Response Office responsible for coordinating the pandemic response across all federal departments and agencies. Through implementation of the National Strategy, the United States will make immediate progress on the seven goals. To monitor outcomes, the National Strategy includes the creation of publicly accessible performance dashboards, establishing a data-driven, evidence-based approach to evaluating America's progress in the fight against COVID-19."

APHL: [Smart Testing for Optimizing Pandemic Response [pdf]](url) (January 2021)
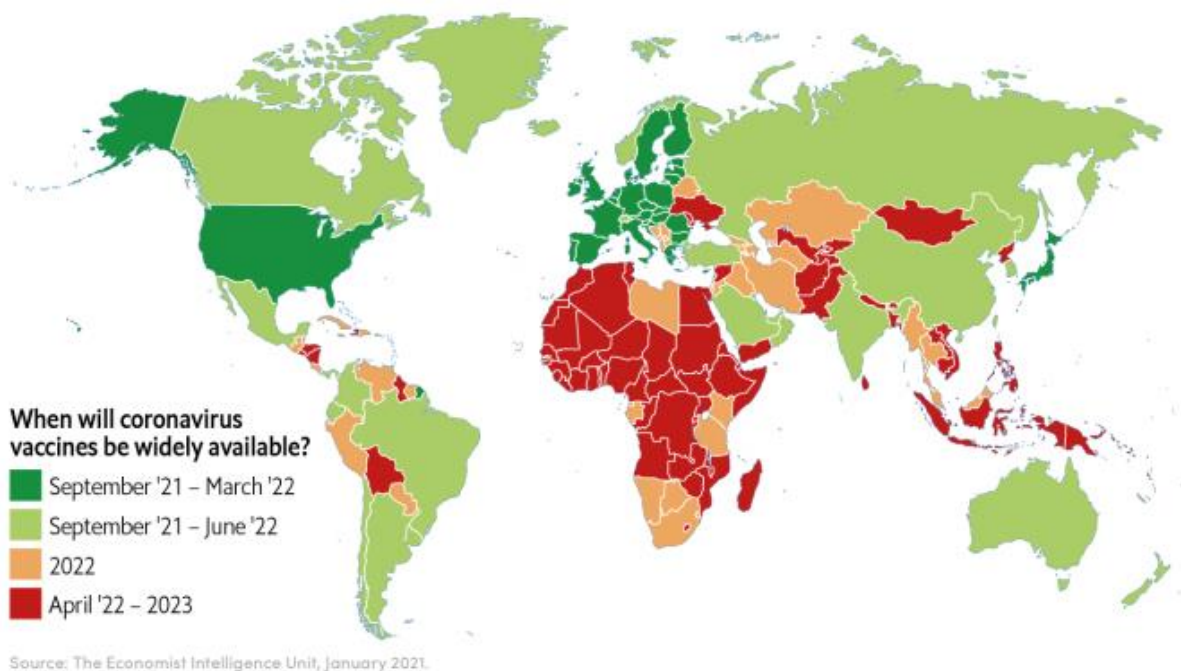
"Diagnostic testing has been, and remains, important for our national response to COVID-19. Testing is utilized to diagnose disease in symptomatic patients, screen for asymptomatic carriers, and conduct epidemiologic surveillance to assess the pandemic in order to develop and monitor the effectiveness of public health interventions. Unfortunately, testing during the COVID-19 pandemic has not been as effective as it could be due to the lack of a coherent, coordinated national testing strategy. This has resulted in the inability to target scarce testing resources, including reagents, supplies and testing personnel to where they are needed the most and will have the greatest impact. The following actions should be taken to improve the COVID-19 testing situation in the United States:

• Develop and implement a national testing strategy for the SARS-CoV-2 virus,
• Address supply chain issues that have led to shortages of testing reagents and supplies,
• Monitor the ongoing development and field evaluation of new diagnostic tests,
• Perform national surveillance for emerging mutations in the viral, and use this information, when necessary, to modify the national pandemic mitigation strategy."

WHO: The Independent Panel 2nd Report on Progress [pdf] (15 January 2021)

"This is the second report on progress from the Independent Panel for Pandemic Preparedness and Response. The report represents over three months of work by the full Panel since it held its first meeting on 17 September 2020. This report has been informed by the review of hundreds of documents, expert consultations across many sectors, case studies, submissions received by the Panel from Member States, academia, civil society, and citizens, and almost 100 interviews with those at the frontlines of pandemic preparedness and response.

The work of the Panel, however, is not yet complete and, as detailed in this report, there are a number of critical questions which remain to be examined in depth before conclusions can be drawn and recommendations made. The first progress report was presented to the resumed session of the 73rd World Health Assembly on 5 November 2020. Following this report, the Panel will again report to the 74th World Health Assembly scheduled for May 2021."

When will coronavirus vaccines be widely available?

- September '21 – March '22
- September '21 – June '22
- 2022
- April '22 – 2023

Source: The Economist Intelligence Unit, January 2021.

Figure 1: Predicted widespread access to COVID-19 vaccines

RAND: [COVID-19 and the Experiences of Populations at Greater Risk. Description and Top-Line Summary Data — Wave 2, Fall 2020](#) (December 2020)

"As a continuation of RAND Corporation and Robert Wood Johnson Foundation efforts to capture how people in the United States think about, value, and prioritize issues of health, well-being, and health equity, a longitudinal survey is being deployed to aid in understanding how health views and values have been affected by the experience of the COVID-19 pandemic. In this report, the authors present the results of the second of four waves of the COVID-19 and the Experiences of Populations at Greater Risk Survey, fielded during fall 2020, with particular focus on populations deemed at risk or underserved, including people of color and those from low- to moderate-income backgrounds.

The questions in this COVID-19 survey focused specifically on experiences related to the pandemic (e.g., financial, physical, emotional), how respondents viewed the disproportionate impacts of the pandemic, whether and how respondents' views and priorities regarding health actions and investments are changing (including the role of government and the private sector), and how general values about such issues as freedom and racism may be related to pandemic views and response expectations.

The authors summarize detailed top-line results for each of the questions included in the survey and sociodemographic characteristics of the sample.

Research questions:

1. What have been the experiences of COVID-19 for underserved populations, especially in terms of income and race and ethnicity?
2. How have health mindset and expectations, including views on the role of government in health, evolved or not during COVID-19? "

Selected Literature: Peer-Reviewed Journals

Date given is the date published or posted online; often these papers are ahead of print.

21 January 2021

JAMA: [Allergic Reactions Including Anaphylaxis After Receipt of the First Dose of Pfizer-BioNTech COVID-19 Vaccine](#)

"This JAMA Insights review provides clinical details of anaphylactic reactions reported to and verified by the CDC in the first week of use of the Pfizer-BioNTech COVID-19 vaccine in the US, December 14-23, 2020."

JAMA: [Effect of Bamlanivimab as Monotherapy or in Combination With Etesevimab on Viral Load in Patients With Mild to Moderate COVID-19: A Randomized Clinical Trial](#)

"Questions: What is the effect of early treatment with antispike neutralizing antibodies on severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) viral load in outpatients with mild to moderate coronavirus disease 2019 (COVID-19)?

Findings: In the phase 2 portion of a randomized phase 2/3 clinical trial with 577 patients, there was no significant difference in change in viral load with 3 different doses of bamlanivimab monotherapy compared with placebo; treatment with a combination of bamlanivimab and etesevimab significantly decreased SARS-CoV-2 log viral load at day 11 compared with placebo (between-group difference, –0.57 [95% CI, –1.00 to –0.14], P = .01).

Meaning: Treatment with bamlanivimab and etesevimab combination therapy, but not bamlanivimab monotherapy, resulted in a reduction in SARS-CoV-2 log viral load at day 11 in patients with mild to moderate COVID-19."

JAMA Netw Open: [Reports of Forgone Medical Care Among US Adults During the Initial Phase of the COVID-19 Pandemic](#)

"Question: What are the frequency of and reasons for reported forgone medical care from March to mid-July 2020, the initial phase of the coronavirus disease 2019 (COVID-19) pandemic in the US?

Findings: In this national survey of 1337 participants, 41% of respondents reported forgoing medical care from March through mid-July 2020. Among adults who reported needing care during this period, more than half reported forgoing care for any reason, more than one-quarter reported forgoing care owing to fear of severe acute respiratory syndrome coronavirus 2 transmission, and 7% reported forgoing care owing to financial concerns.

Meaning: This survey study found that there was a high frequency of forgone care from March to mid-July 2020, with respondents commonly attributing the causes of forgone care to repercussions of the COVID-19 pandemic."

JAMA Ophthalmol: [Presence of SARS-CoV-2 RNA in the Cornea of Viremic Patients With COVID-19](#)

"Question: Is severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) present in the human cornea?

Findings: In this case series carried out in a tertiary care facility, SARS-CoV-2 genomic RNA was detected in the cornea of 6 of 11 eyes (55%) of patients with viremic coronavirus disease 2019; subgenomic SARS-CoV-2 RNA was present in 4 of these 6 eyes (67%). Infectivity or presence of viral structural proteins could not be confirmed in any eye.

Meaning: This report demonstrates the presence of viral genomic and subgenomic RNA of SARS-CoV-2 in the human cornea."

JAMA Ophthalmol: [Pediatric Eye Injuries by Hydroalcoholic Gel in the Context of the Coronavirus Disease 2019 Pandemic](#)

"Question: Is there an increase in severe ocular lesions associated with alcohol-based hand sanitizer exposures in children since March 2020?

Findings: In this national retrospective review from the French Poison Control Centers, a 7-fold increase of alcohol-based hand sanitizer-related ocular exposures in children was found in comparison with 2019, and a pediatric ophthalmology center reported 13% of patients requiring surgery for severe lesions.

Meaning: These findings support that, despite the importance of alcohol-based hand sanitizers for controlling the spread of coronavirus disease 2019, these agents should be used with caution and likely kept away from young children."

See also: [Hand Sanitizer–Induced Ocular Injury A COVID-19 Hazard in Children](#)

20 January 2021

JAMA Netw Open: [Association of Social and Economic Inequality With Coronavirus Disease 2019 Incidence and Mortality Across US Counties](#)

"Question: Are racial/ethnic population composition and economic inequality associated with coronavirus disease 2019 (COVID-19) incidence and mortality?

Findings: This cross-sectional ecological analysis of cumulative COVID-19 incidence and mortality rates for the first 200 days of the pandemic in 3141 US counties confirmed positive associations of incidence and mortality rates with racial/ethnic composition and with income inequality well as a joint association of incidence and mortality with both structural factors.

Meaning: This study suggests that COVID-19 surveillance systems should take into account county-level income inequality to better understand the social patterning of COVID-19."

JAMA Netw Open: [Factors Associated With US Public Motivation to Use and Distribute COVID-19 Self-tests](#)

"This survey study examines factors associated with motivation to use and distribute self-tests for COVID-19 infection among US adults."

19 January 2021

Ann Intern Med: [SARS-CoV-2 Vaccines: Much Accomplished, Much to Learn](#)

"Over the next weeks and months, physicians will face questions regarding the science, safety, and efficacy of the first wave of severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2) vaccines to be authorized and distributed. In most cases these vaccine platforms will be new technologies that have not previously been administered other than through clinical trials. Although the initial data on efficacy and safety are extraordinarily encouraging, many questions remain regarding who should receive these vaccines and the immediate, intermediate, and long-term impact of the vaccination program on the pandemic. In this article, we provide a perspective on the vaccines furthest along in development in the United States, 2 of which have received Emergency Use Authorization (EUA) from the U.S. Food and Drug Administration (FDA) and have been recommended for use by the Advisory Committee on Immunization Practices (ACIP) of the Centers for Disease Control and Prevention (CDC). It is important to note that an EUA by the FDA is a mechanism used during a declared public health emergency to get potentially effective interventions as quickly as possible to those who might benefit and is not the same as formal FDA approval."

Ann Intern Med: [Characteristics, Outcomes, and Trends of Patients With COVID-19–Related Critical Illness at a Learning Health System in the United States](#)

"Background: The coronavirus disease 2019 (COVID-19) pandemic continues to surge in the United States and globally.

Objective: To describe the epidemiology of COVID-19-related critical illness, including trends in outcomes and care delivery.

Design: Single-health system, multihospital retrospective cohort study.

Setting: 5 hospitals within the University of Pennsylvania Health System.

Patients: Adults with COVID-19-related critical illness who were admitted to an intensive care unit (ICU) with acute respiratory failure or shock during the initial surge of the pandemic.

Measurements: The primary exposure for outcomes and care delivery trend analyses was longitudinal time during the pandemic. The primary outcome was all-cause 28-day in-hospital mortality. Secondary outcomes were all-cause death at any time, receipt of mechanical ventilation (MV), and readmissions.

Results: Among 468 patients with COVID-19-related critical illness, 319 (68.2%) were treated with MV and 121 (25.9%) with vasopressors. Outcomes were notable for an all-cause 28-day in-hospital mortality rate of 29.9%, a median ICU stay of 8 days (interquartile

range [IQR], 3 to 17 days), a median hospital stay of 13 days (IQR, 7 to 25 days), and an all-cause 30-day readmission rate (among nonhospice survivors) of 10.8%. Mortality decreased over time, from 43.5% (95% CI, 31.3% to 53.8%) to 19.2% (CI, 11.6% to 26.7%) between the first and last 15-day periods in the core adjusted model, whereas patient acuity and other factors did not change.

Limitation: Single-health system study; use of, or highly dynamic trends in, other clinical interventions were not evaluated, nor were complications.

Conclusion: Among patients with COVID-19-related critical illness admitted to ICUs of a learning health system in the United States, mortality seemed to decrease over time despite stable patient characteristics. Further studies are necessary to confirm this result and to investigate causal mechanisms."

Clin Infect Dis: Airborne Transmission of SARS-CoV-2: What We Know

"We examine airborne transmission of SARS-CoV-2 potential using a source-to-dose framework beginning with generation of virus-containing droplets and aerosols and ending with virus deposition in the respiratory tract of susceptible individuals. By addressing four critical questions, we identify both gaps in addressing four critical questions with answers having policy implications."

Clin Infect Dis: Population-based Estimates of COVID-19-like Illness, COVID-19 Illness, and Rates of Case Ascertainment, Hospitalizations, and Deaths — Non-Institutionalized New York City Residents, March–April 2020

"Using a population-based, representative telephone survey, ~930,000 New York City residents had COVID-19 illness beginning March 20–April 30, 2020, a period with limited testing. For every 1000 persons estimated with COVID-19 illness, 141.8 were tested and reported as cases, 36.8 were hospitalized, and 12.8 died, varying by demographic characteristics."

EClinicalMedicine: The effect of early treatment with ivermectin on viral load, symptoms and humoral response in patients with non-severe COVID-19: A pilot, double-blind, placebo-controlled, randomized clinical trial

"Ivermectin inhibits the replication of SARS-CoV-2 in vitro at concentrations not readily achievable with currently approved doses. There is limited evidence to support its clinical use in COVID-19 patients. We conducted a Pilot, randomized, double-blind, placebo-controlled trial to evaluate the efficacy of a single dose of ivermectin reduce the transmission of SARS-CoV-2 when administered early after disease onset.

Consecutive patients with non-severe COVID-19 and no risk factors for complicated disease attending the emergency room of the Clínica Universidad de Navarra between July 31, 2020

and September 11, 2020 were enrolled. All enrollments occurred within 72 h of onset of fever or cough. Patients were randomized 1:1 to receive ivermectin, 400 mcg/kg, single dose (n = 12) or placebo (n = 12). The primary outcome measure was the proportion of patients with detectable SARS-CoV-2 RNA by PCR from nasopharyngeal swab at day 7 post-treatment. The primary outcome was supported by determination of the viral load and infectivity of each sample. The differences between ivermectin and placebo were calculated using Fisher's exact test and presented as a relative risk ratio. This study is registered at ClinicalTrials.gov: NCT04390022.

All patients recruited completed the trial (median age, 26 [IQR 19–36 in the ivermectin and 21–44 in the controls] years; 12 [50%] women; 100% had symptoms at recruitment, 70% reported headache, 62% reported fever, 50% reported general malaise and 25% reported cough). At day 7, there was no difference in the proportion of PCR positive patients (RR 0·92, 95% CI: 0·77–1·09, p = 1·0). The ivermectin group had non-statistically significant lower viral loads at day 4 (p = 0·24 for gene E; p = 0·18 for gene N) and day 7 (p = 0·16 for gene E; p = 0·18 for gene N) post treatment as well as lower IgG titers at day 21 post treatment (p = 0·24). Patients in the ivermectin group recovered earlier from hyposmia/anosmia (76 vs 158 patient-days; p < 0.001).

Among patients with non-severe COVID-19 and no risk factors for severe disease receiving a single 400 mcg/kg dose of ivermectin within 72 h of fever or cough onset there was no difference in the proportion of PCR positives. There was however a marked reduction of self-reported anosmia/hyposmia, a reduction of cough and a tendency to lower viral loads and lower IgG titers which warrants assessment in larger trials."

JAMA: [Effect of Discontinuing vs Continuing Angiotensin-Converting Enzyme Inhibitors and Angiotensin II Receptor Blockers on Days Alive and Out of the Hospital in Patients Admitted With COVID-19: A Randomized Clinical Trial](#)

"Question: Does discontinuation compared with continuation of angiotensin-converting enzyme inhibitors (ACEIs) or angiotensin II receptor blockers (ARBs) change the number of days alive and out of the hospital through 30 days in patients hospitalized with mild to moderate coronavirus disease 2019 (COVID-19)?

Findings: In this randomized clinical trial that included 659 patients hospitalized with mild to moderate COVID-19 and who were taking ACEIs or ARBs before hospital admission, the mean number of days alive and out of the hospital for those assigned to discontinue vs continue these medications was 21.9 vs 22.9, respectively, a difference that was not statistically significant.

Meaning: These findings do not support routinely discontinuing ACEIs or ARBs among patients hospitalized with mild to moderate COVID-19."

JAMA Netw Open: [Association of Intensive Care Unit Patient Load and Demand With Mortality Rates in US Department of Veterans Affairs Hospitals During the COVID-19 Pandemic](#)

> "Question: Is greater coronavirus disease 2019 (COVID-19) intensive care unit (ICU) strain associated with increased COVID-19 mortality?
>
> Findings: In this cohort study of 8516 patients with COVID-19 admitted to 88 US Veterans Affairs hospitals, strains on critical care capacity were associated with increased COVID-19 mortality. Among patients with COVID-19, those treated in the ICU during periods of peak COVID-19 ICU demand had a nearly 2-fold increased risk of mortality compared with those treated during periods of low demand.
>
> Meaning: These findings suggest that public health officials and hospital administrators should consider interventions that reduce COVID-19 ICU demand to improve survival among patients with COVID-19 in the ICU."

JAMA Pediatr: [Association of Home Quarantine and Mental Health Among Teenagers in Wuhan, China, During the COVID-19 Pandemic](#)

"This cross-sectional study investigates the prevalence of depression and anxiety and their associations with lifestyle changes among adolescents in Wuhan, China, during the coronavirus disease 2019 pandemic."

18 January 2021

Lancet Infect Dis: [Household transmission of SARS-CoV-2 and risk factors for susceptibility and infectivity in Wuhan: a retrospective observational study](#)

> "Based on contact-tracing records from more than 27 000 households in Wuhan up to April 18, we found that SARS-CoV-2 was transmitted with moderate efficiency within households at the very beginning of the pandemic, with an overall secondary attack rate of 15·6% (95% CI 15·2–16·0). Children and adolescents were less susceptible to infection, but more infectious once infected, than individuals aged 20 years or older. Children's higher infectivity was affected by household size. Our study confirmed higher susceptibility of infants (aged 0–1 years) to infection than older children (≥2 years of age). Although children and adolescents were much less likely to have severe disease, they were as likely as adults to develop symptoms. We confirmed the high infectiousness of cases during the incubation period and found asymptomatically infected individuals were about 80% less infectious than symptomatic cases. Finally, we found isolation of cases and quarantining of household contacts away from home effectively reduced household transmission.
>
> The high infectivity of children with SARS-CoV-2 infection highlights the need for careful planning of school reopening. Additionally, the susceptibility of infants supports caregivers

of infants being prioritised for vaccination. When feasible, cases could be isolated and household contacts quarantined away from their homes to prevent household transmission, particularly when presymptomatic."

15 January 2021

JAMA Intern Med: Comparison of Saliva and Nasopharyngeal Swab Nucleic Acid Amplification Testing for Detection of SARS-CoV-2: A Systematic Review and Meta-analysis

"Question: Is saliva nucleic acid amplification testing (NAAT) comparable to nasopharyngeal NAAT, the current noninvasive criterion standard test for diagnosis of coronavirus disease 2019?

Findings: In this systematic review and latent class meta-analysis adjusting for the imperfect reference standard, saliva NAAT had a similar sensitivity and specificity to that of nasopharyngeal NAAT.

Meaning: Given the ease of use and good diagnostic performances, these findings suggest that saliva NAAT represents an attractive alternative to nasopharyngeal swab NAAT and may significantly bolster massive testing efforts."

JAMA Intern Med: Clinical Characteristics and Outcomes of Hospitalized Women Giving Birth With and Without COVID-19

"This cohort study compares the clinical characteristics and outcomes of hospitalized women who gave birth with and without coronavirus disease 2019."

MMWR: Emergence of SARS-CoV-2 B.1.1.7 Lineage — United States, December 29, 2020– January 12, 2021

"What is already known about this topic? A more highly transmissible variant of SARS-CoV-2, B.1.1.7, has been detected in 10 U.S. states.

What is added by this report? Modeling data indicate that B.1.1.7 has the potential to increase the U.S. pandemic trajectory in the coming months. CDC's system for genomic surveillance and the effort to expand sequencing will increase the availability of timely U.S. genomic surveillance data.

What are the implications for public health practice? The increased transmissibility of the B.1.1.7 variant warrants universal and increased compliance with mitigation strategies, including distancing and masking. Higher vaccination coverage might need to be achieved to protect the public. Genomic sequence analysis through the National SARS-CoV-2 Strain Surveillance program will enable a targeted approach to identifying variants of concern in the United States."

14 January 2021

JCI Insight: Circulating mitochondrial DNA is an early indicator of severe illness and mortality from COVID-19

> "Mitochondrial DNA (MT-DNA) are intrinsically inflammatory nucleic acids released by damaged solid organs. Whether circulating cell-free MT-DNA quantitation could be used to predict the risk of poor COVID-19 outcomes remains undetermined.
>
> We measured circulating MT-DNA levels in prospectively collected, cell-free plasma samples from 97 subjects with COVID-19 at hospital presentation. Our primary outcome was mortality. ICU admission, intubation, vasopressor and renal replacement therapy requirements were secondary outcomes. Multivariate regression analysis determined whether MT-DNA levels were independent of other reported COVID-19 risk factors. Receiver operating characteristics and area under-the-curve assessment were used to compare MT-DNA levels to established and emerging inflammatory markers of COVID-19.
>
> Circulating MT-DNA levels were highly elevated in patients who eventually died, required ICU admission, intubation, vasopressor use or renal replacement therapy. Multivariate regression revealed that high circulating MT-DNA is an independent risk factor for these outcomes after adjusting for age, sex, and comorbidities. We also found that circulating MT-DNA levels have a similar or superior area-under-the curve when compared against clinically-established measures of inflammation and emerging markers currently of interest as investigational targets for COVID-19 therapy.
>
> These results show that high circulating MT-DNA levels are a potential early indicator for poor COVID-19 outcomes."

PNAS: Reductions in 2020 US life expectancy due to COVID-19 and the disproportionate impact on the Black and Latino populations

> " COVID-19 has resulted in a staggering death toll in the United States: over 215,000 by mid-October 2020, according to the Centers for Disease Control and Prevention. Black and Latino Americans have experienced a disproportionate burden of COVID-19 morbidity and mortality, reflecting persistent structural inequalities that increase risk of exposure to COVID-19 and mortality risk for those infected. We estimate life expectancy at birth and at age 65 y for 2020, for the total US population and by race and ethnicity, using four scenarios of deaths—one in which the COVID-19 pandemic had not occurred and three including COVID-19 mortality projections produced by the Institute for Health Metrics and Evaluation. Our medium estimate indicates a reduction in US life expectancy at birth of 1.13 y to 77.48 y, lower than any year since 2003. We also project a 0.87-y reduction in life expectancy at age 65 y. The Black and Latino populations are estimated to experience declines in life expectancy at birth of 2.10 and 3.05 y, respectively, both of which are several times the

0.68-y reduction for Whites. These projections imply an increase of nearly 40% in the Black–White life expectancy gap, from 3.6 y to over 5 y, thereby eliminating progress made in reducing this differential since 2006. Latinos, who have consistently experienced lower mortality than Whites (a phenomenon known as the Latino or Hispanic paradox), would see their more than 3-y survival advantage reduced to less than 1 y."

13 January 2021

MMWR: [COVID-19 Trends Among Persons Aged 0–24 Years — United States, March 1–December 12, 2020](#)

"What is already known about this topic? Studies have consistently shown that children, adolescents, and young adults are susceptible to SARS-CoV-2 infections. Children and adolescents have had lower incidence and fewer severe COVID-19 outcomes than adults.

What is added by this report? COVID-19 cases in children, adolescents, and young adults have increased since summer 2020, with weekly incidence higher in each successively increasing age group. Trends among children and adolescents aged 0–17 years paralleled those among adults.

What are the implications for public health practice? To enable safer in-person learning, schools and communities should fully implement and strictly adhere to multiple mitigation strategies, especially universal and proper mask wearing, to reduce both school and community COVID-19 incidence to help protect students, teachers, and staff members from COVID-19."

Mol Neurobiol: [SARS-CoV-2 Infection in the Central and Peripheral Nervous System-Associated Morbidities and Their Potential Mechanism](#)

"The recent outbreak of SARS-CoV-2 infections that causes coronavirus-induced disease of 2019 (COVID-19) is the defining and unprecedented global health crisis of our time in both the scale and magnitude. Although the respiratory tract is the primary target of SARS-CoV-2, accumulating evidence suggests that the virus may also invade both the central nervous system (CNS) and the peripheral nervous system (PNS) leading to numerous neurological issues including some serious complications such as seizures, encephalitis, and loss of consciousness. Here, we present a comprehensive review of the currently known role of SARS-CoV-2 and identify all the neurological problems reported among the COVID-19 case reports throughout the world. The virus might gain entry into the CNS either through the trans-synaptic route via the olfactory neurons or through the damaged endothelium in the brain microvasculature using the ACE2 receptor potentiated by neuropilin-1 (NRP-1). The most critical of all symptoms appear to be the spontaneous loss of breathing in some COVID-19 patients. This might be indicative of a dysfunction within the cardiopulmonary

regulatory centers in the brainstem. These pioneering studies, thus, lay a strong foundation for more in-depth basic and clinical research required to confirm the role of SARS-CoV-2 infection in neurodegeneration of critical brain regulatory centers."

Trans R Soc Trop Med Hyg: [The benefits and costs of social distancing in high- and low-income countries](#)

"Widespread social distancing and lockdowns of everyday activity have been the primary policy prescription across many countries throughout the coronavirus disease 2019 (COVID-19) pandemic. Despite their uniformity, these measures may be differentially valuable for different countries.

We use a compartmental epidemiological model to project the spread of COVID-19 across policy scenarios in high- and low-income countries. We embed estimates of the welfare value of disease avoidance into the epidemiological projections to estimate the return to more stringent lockdown policies.

Social distancing measures that 'flatten the curve' of the disease provide immense welfare value in upper-income countries. However, social distancing policies deliver significantly less value in lower-income countries that have younger populations, which are less vulnerable to COVID-19. Equally important, social distancing mandates a trade-off between disease risk and economic activity. Poorer people are less able to make those economic sacrifices.

The epidemiological and welfare value of social distancing is smaller in lower-income countries and such policies may exact a heavy toll on the poorest and most vulnerable. Workers in the informal sector often lack the resources and social protections that enable them to isolate themselves until the virus passes. By limiting these households' ability to earn a living, social distancing can lead to an increase in hunger, deprivation, and related mortality and morbidity."

12 January 2021

Ann AM Thorac Soc: [Persistent Post-COVID-19 Inflammatory Interstitial Lung Disease: An Observational Study of Corticosteroid Treatment](#)

"The natural history of recovery from Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV2) remains unknown. Since fibrosis with persistent physiological deficit is a previously-described feature of patients recovering from similar coronaviruses, treatment represents an early opportunity to modify the disease course, potentially preventing irreversible impairment.

Determine the incidence of and describe the progression of persistent inflammatory interstitial lung disease (ILD) following SARS-CoV2 when treated with prednisolone.

A structured assessment protocol screened for sequelae of SARS-CoV2 pneumonitis. 837 patients were assessed by telephone four weeks after discharge. Those with ongoing symptoms had outpatient assessment at six weeks. Thirty patients diagnosed with persistent interstitial lung changes at multi-disciplinary team meeting were reviewed in the interstitial lung disease service and offered treatment. These patients had persistent, non-improving symptoms.

At four weeks post-discharge, 39% of patients reported ongoing symptoms (325/837), and were assessed. Interstitial lung disease, predominantly organising pneumonia, with significant functional deficit was observed in 35/837 survivors (4.8%). Thirty of these patients received steroid treatment, resulting in a mean relative increase in transfer factor following treatment of 31.6% (standard deviation ± 27.64, p <0.001), and FVC of 9.6% (standard deviation ± 13.01, p = 0.014), with significant symptomatic and radiological improvement.

Following SARS-CoV-2 pneumonitis, a cohort of patients are left with both radiological inflammatory lung disease and persistent physiological and functional deficit. Early treatment with corticosteroids was well tolerated and associated with rapid and significant improvement. This preliminary data should inform further study into the natural history and potential treatment for patients with persistent inflammatory ILD following SARS-CoV2 infection."

Appl Health Econ Health Policy: [How Many Intensive Care Beds are Justifiable for Hospital Pandemic Preparedness? A Cost-effectiveness Analysis for COVID-19 in Germany](#)

"Germany is experiencing the second COVID-19 pandemic wave. The intensive care unit (ICU) bed capacity is an important consideration in the response to the pandemic. The purpose of this study was to determine the costs and benefits of maintaining or expanding a staffed ICU bed reserve capacity in Germany.

This study compared the provision of additional capacity to no intervention from a societal perspective. A decision model was developed using, e.g. information on age-specific fatality rates, ICU costs and outcomes, and the herd protection threshold. The net monetary benefit (NMB) was calculated based upon the willingness to pay for new medicines for the treatment of cancer, a condition with a similar disease burden in the near term.

The marginal cost-effectiveness ratio (MCER) of the last bed added to the existing ICU capacity is €21,958 per life-year gained assuming full bed utilization. The NMB decreases with an additional expansion but remains positive for utilization rates as low as 2%. In a sensitivity analysis, the variables with the highest impact on the MCER were the mortality rates in the ICU and after discharge.

This article demonstrates the applicability of cost-effectiveness analysis to policies of hospital pandemic preparedness and response capacity strengthening. In Germany, the provision of a staffed ICU bed reserve capacity appears to be cost-effective even for a low probability of bed utilization."

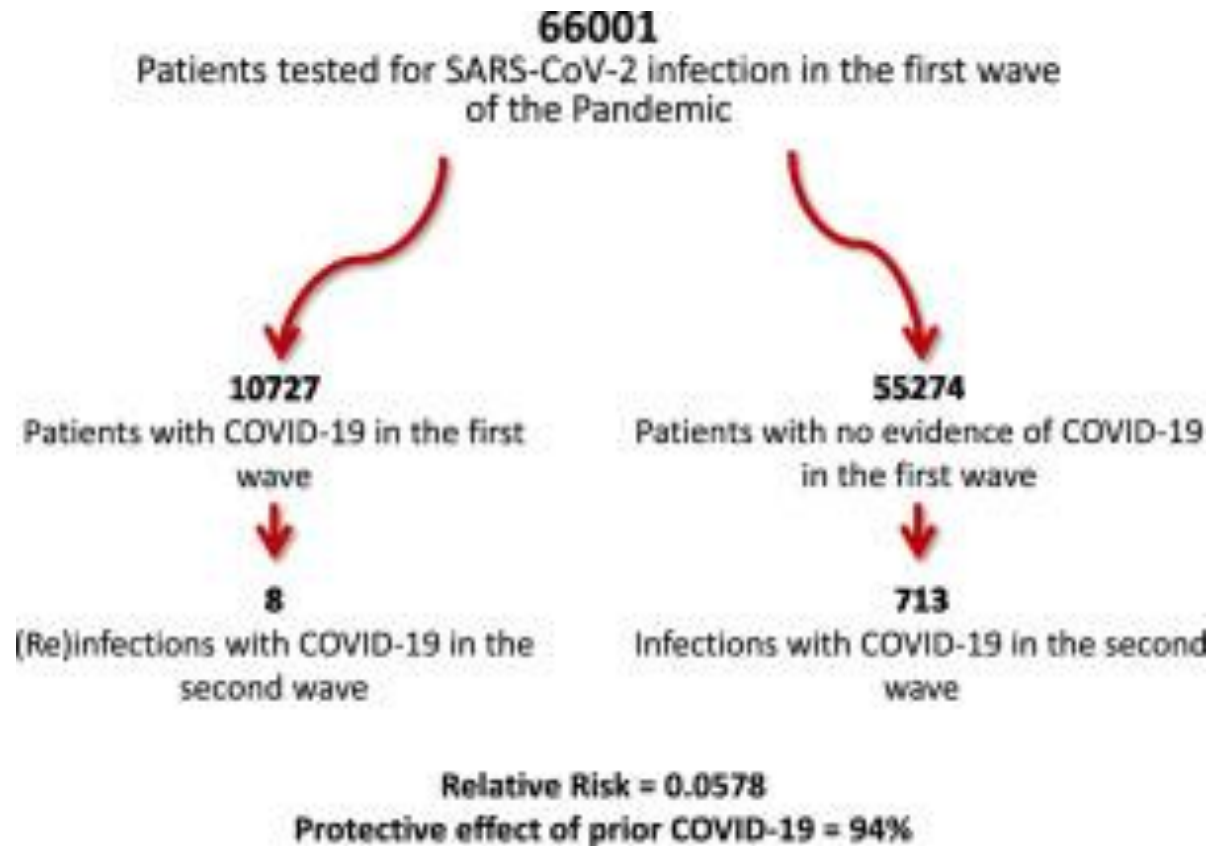Int J Epidemiol: [Seroprevalence of SARS-CoV-2 antibodies in over 6000 healthcare workers in Spain](#)

"Spain has one of the highest incidences of coronavirus disease 2019 (COVID-19) worldwide, so Spanish health care workers (HCW) are at high risk of exposure. Our objective was to determine severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) antibody seroprevalence amongst HCW and factors associated with seropositivity.

A cross-sectional study evaluating 6190 workers (97.8% of the total workforce of a healthcare-system of 17 hospitals across four regions in Spain) was carried out between April and June 2020, by measuring immunoglobulin G (IgG)-SARS-CoV-2 antibody titres and related clinical data. Exposure risk was categorized as high (clinical environment; prolonged/direct contact with patients), moderate (clinical environment; non-intense/no patient contact) and low (non-clinical environment).

A total of 6038 employees (mean age 43.8 years; 71% female) were included in the final analysis. A total of 662 (11.0%) were seropositive for IgG against SARS-CoV-2 (39.4% asymptomatic). Adding available PCR-testing, 713 (11.8%) employees showed evidence of previous SARS-CoV-2 infection. However, before antibody testing, 482 of them (67%) had no previous diagnosis of SARS-CoV-2-infection. Seroprevalence was higher in high- and moderate-risk exposure (12.1 and 11.4%, respectively) compared with low-grade risk subjects (7.2%), and in Madrid (13.8%) compared with Barcelona (7.6%) and Coruña (2.0%). High-risk [odds ratio (OR): 2.06; 95% confidence interval (CI): 1.63–2.62] and moderate-risk (OR: 1.77; 95% CI: 1.32–2.37) exposures were associated with positive IgG-SARS-CoV-2 antibodies after adjusting for region, age and sex. Higher antibody titres were observed in moderate–severe disease (median antibody-titre: 13.7 AU/mL) compared with mild (6.4 AU/mL) and asymptomatic (5.1 AU/mL) infection, and also in older (>60 years: 11.8 AU/mL) compared with younger (<30 years: 4.2 AU/mL) people.

Seroprevalence of IgG-SARS-CoV-2 antibodies in HCW is a little higher than in the general population and varies depending on regional COVID-19 incidence. The high rates of subclinical and previously undiagnosed infection observed in this study reinforce the utility of antibody screening. An occupational risk for SARS-CoV-2 infection related to working in a clinical environment was demonstrated in this HCW cohort."

J Infect: Prior COVID-19 significantly reduces the risk of subsequent infection, but reinfections are seen after eight months

66001
Patients tested for SARS-CoV-2 infection in the first wave of the Pandemic

10727
Patients with COVID-19 in the first wave

55274
Patients with no evidence of COVID-19 in the first wave

8
(Re)infections with COVID-19 in the second wave

713
Infections with COVID-19 in the second wave

Relative Risk = 0.0578
Protective effect of prior COVID-19 = 94%

11 January 2021

Intern Emerg Med: A simple lung ultrasound protocol for the screening of COVID-19 pneumonia in the emergency department

"The most relevant manifestation of coronavirus disease 2019 (COVID-19) is interstitial pneumonia. Several lung ultrasound (US) protocols for pneumonia diagnosis are used in clinical practice, but none has been proposed for COVID-19 patients' screening in the emergency department. We adopted a simplified 6-scan lung US protocol for COVID-19 pneumonia diagnosis (LUSCOP) and compared its sensitivity with high resolution computed tomography (HRCT) in patients suspected for COVID-19, presenting to one Emergency Department from February 21st to March 15th, 2020, during the outbreak burst in northern Italy. Patients were retrospectively enrolled if both LUSCOP protocol and HRCT were performed in the Emergency Department. The sensitivity of LUSCOP protocol and HRCT were compared. COVID-19 pneumonia's final diagnosis was based on real-time reverse-

transcription polymerase chain reaction from nasal-pharyngeal swab and on clinical data. Out of 150 suspected COVID-19 patients, 131 were included in the study, and 130 had a final diagnosis of COVID-19 pneumonia. The most frequent lung ultrasonographic features were: bilateral B-pattern in 101 patients (77%), B-pattern with subpleural consolidations in 26 (19.8%) and lung consolidations in 2 (1.5%). LUSCOP Protocol was consistent with HRCT in correctly screening 130 out of the 131 COVID-19 pneumonia cases (99.2%). In one case COVID-19 pneumonia was excluded by both HRCT and lung US. LUSCOP protocol showed optimal sensitivity and can be proposed as a simple screening tool for COVID-19 pneumonia diagnosis in the context of outbreak burst areas where prompt isolation of suspected patients is crucial for patients' and operators' safety."

J Surg Oncol: [Early postoperative outcomes among patients with delayed surgeries after preoperative positive test for SARS-CoV-2: A case-control study from a single institution](#)

"Asymptomatic patients that had surgery delayed after preoperative reverse-transcription polymerase chain reaction (RT-PCR) for SARS-CoV-2 were matched in a 1:2 ratio for age, type of surgery and American Society of Anesthesiologists to patients with negative RT-PCR for SARS-CoV-2.

About 1253 patients underwent surgical procedures and were subjected to screening for SARS-CoV-2. Forty-nine cases with a delayed surgery were included in the coronavirus disease (COVID) recovery (COVID-rec) group and were matched to 98 patients included in the COVID negative (COVID-neg) group. Overall, 22 (15%) patients had 30-days postoperative complications, but there was no statistically difference between groups – 16.3% for COVID-rec and 14.3% for COVID-neg, respectively (odds ratio [OR] 1.17:95% confidence interval [CI] 0.45–3.0; p = .74). Moreover, we did not find difference regarding grades more than or equal to 3 complication rates – 8.2% for COVID-rec and 6.1% for COVID-neg (OR 1.36:95%CI 0.36-5.0; p = .64). There were no pulmonary complications or SARS-CoV-2 related infection and no deaths within the 30-days after surgery.

Our study suggests that patients with delayed elective surgeries due to asymptomatic preoperative positive SARS-CoV-2 test are not at higher risk of postoperative complications."

ICYMI (older than the last 2 weeks)

Emerg Top Life Sci: [How SARS-CoV-2 (COVID-19) spreads within infected hosts - what we know so far](#) (online 03 December 2020)

"Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), the causative agent of the ongoing pandemic of coronavirus disease 2019 (COVID-19), belongs to the betacoronavirus genus and shares high homology to the severe acute respiratory syndrome coronavirus

(SARS-CoV) that emerged in 2003. These are highly transmissible and pathogenic viruses which very likely originated in bats. SARS-CoV-2 uses the same receptor, angiotensin-converting enzyme 2 (ACE2) as SARS-CoV, and spreads primarily through the respiratory tract. Although several trials for vaccine development are currently underway, investigations into the virology of SARS-CoV-2 to understand the fundamental biology of the infectious cycle and the associated immunopathology underlying the clinical manifestations of COVID-19 are crucial for identification and rational design of effective therapies. This review provides an overview of how SARS-CoV-2 infects and spreads within human hosts with specific emphasis on key aspects of its lifecycle, tropism and immunopathological features."
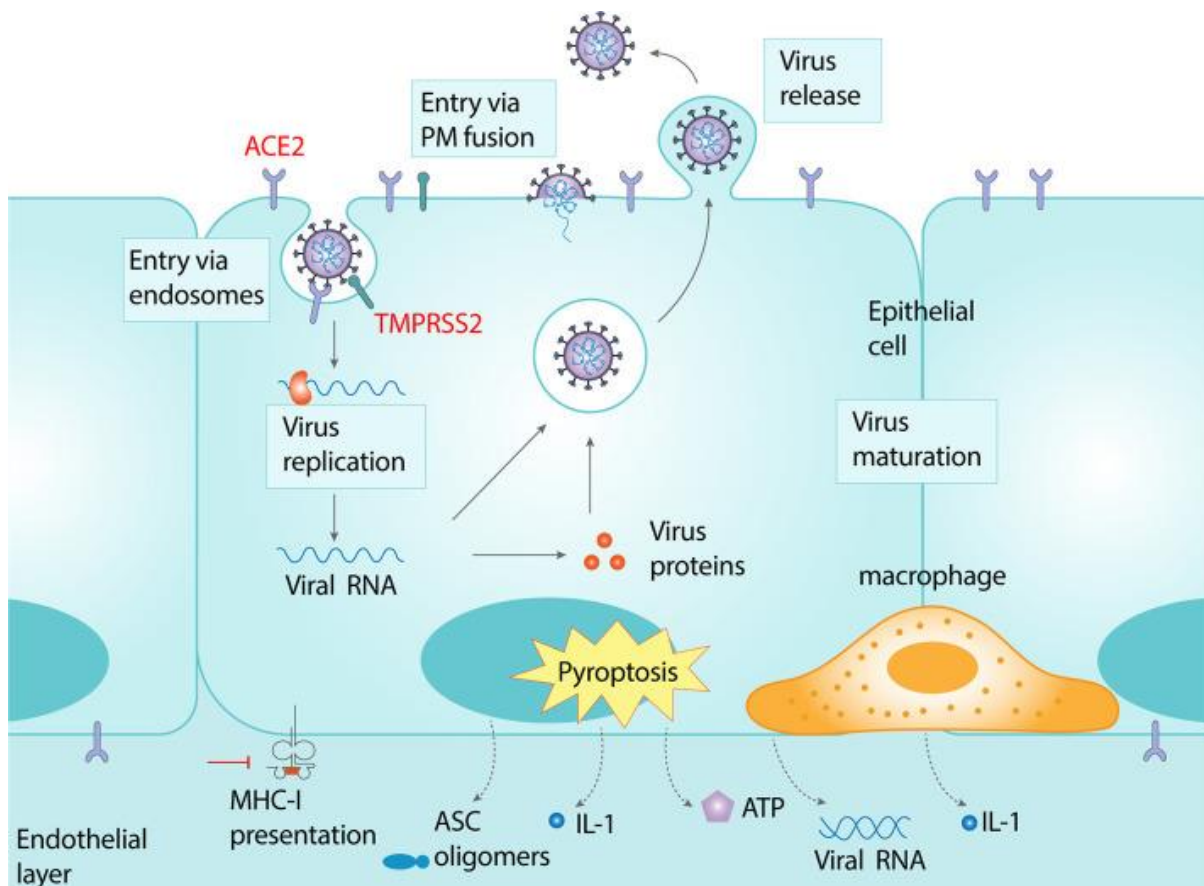

FIGURE 1: Schematic of the intracellular lifecycle of SARS-CoV-2 and associated immunopathology.

Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infects cells expressing the surface receptors angiotensin-converting enzyme 2 (ACE2) and TMPRSS2, resulting in entry of the virus via the endocytic machinery or upon fusion at the plasma membrane. The viral genome is released into the cytosol upon fusion of the viral and host membranes and undergoes replication, transcription, translation and assembly to form viral progenies that are released into the extracellular space via unknown mechanisms. Amplification and release of the virus leads to host cell pyroptosis and release of damage-associated molecular patterns, including ATP, nucleic acids and ASC oligomers. This is accompanied by secretion of pro-inflammatory cytokines and chemokines culminating in a cytokine storm. On the other hand MHC-I restricted antigen presentation is downregulated most likely by binding of the viral Orf8 protein, resulting in attenuated T-cell activation, thereby contributing to the common clinical feature of lymphopenia.

Selected Literature: Preprints

Preprints are found on preprint servers such as arXiv, bioRxiv, and medRxiv; they are commonly used for biomedical research. Preprints may later be published in peer-reviewed journals. Per medRxiv: "Preprints are preliminary reports of work that have not been certified by peer review. They should not be relied on to guide clinical practice or health-related behavior and should not be reported in news media as established information."

bioRxiv: Neutralization of SARS-CoV-2 lineage B.1.1.7 pseudovirus by BNT162b2 vaccine-elicited human sera (posted 19 January 2021)

> "Recently, a new SARS-CoV-2 lineage called B.1.1.7 has emerged in the United Kingdom that was reported to spread more efficiently than other strains. This variant has an unusually large number of mutations with 10 amino acid changes in the spike protein, raising concerns that its recognition by neutralizing antibodies may be affected. Here, we investigated SARS-CoV-2-S pseudoviruses bearing either the Wuhan reference strain or the B.1.1.7 lineage spike protein with sera of 16 participants in a previously reported trial with the mRNA-based COVID-19 vaccine BNT162b2. The immune sera had equivalent neutralizing titers to both variants. These data, together with the combined immunity involving humoral and cellular effectors induced by this vaccine, make it unlikely that the B.1.1.7 lineage will escape BNT162b2-mediated protection."

bioRxiv: SARS-CoV-2 501Y.V2 escapes neutralization by South African COVID-19 donor plasma (posted 19 January 2021)

> "SARS-CoV-2 501Y.V2, a novel lineage of the coronavirus causing COVID-19, contains multiple mutations within two immunodominant domains of the spike protein. Here we show that this lineage exhibits complete escape from three classes of therapeutically relevant monoclonal antibodies. Furthermore 501Y.V2 shows substantial or complete escape from neutralizing antibodies in COVID-19 convalescent plasma. These data highlight the prospect of reinfection with antigenically distinct variants and may foreshadow reduced efficacy of current spike-based vaccines."

medRxiv: Do antibody positive healthcare workers have lower SARS-CoV-2 infection rates than antibody negative healthcare workers? Large multi-centre prospective cohort study (the SIREN study), England: June to November 2020 (posted 15 January 2021)

> "There is an urgent need to better understand whether individuals who have recovered from COVID-19 are protected from future SARS-CoV-2 infection.
>
> A large multi-centre prospective cohort was recruited from publicly funded hospital staff in the UK. Participants attended regular SARS-CoV-2 PCR and antibody testing (every 2-4

weeks) and completed fortnightly questionnaires on symptoms and exposures. At enrolment, participants were assigned to either the positive cohort (antibody positive or prior PCR/antibody test positive) or negative cohort (antibody negative, not previously known to be PCR/antibody positive). Potential reinfections were clinically reviewed and classified according to case definitions (confirmed, probable, possible (subdivided by symptom-status)) depending on hierarchy of evidence. Individuals in the primary infection were excluded from this analysis if infection was confirmed by antibody only. Reinfection rates in the positive cohort were compared against new PCR positives in the negative cohort using a mixed effective multivariable logistic regression analysis.

Between 18 June and 09 November 2020, 44 reinfections (2 probable, 42 possible) were detected in the baseline positive cohort of 6,614 participants, collectively contributing 1,339,078 days of follow-up. This compares with 318 new PCR positive infections and 94 antibody seroconversions in the negative cohort of 14,173 participants, contributing 1,868,646 days of follow-up. The incidence density per 100,000 person days between June and November 2020 was 3.3 reinfections in the positive cohort, compared with 22.4 new PCR confirmed infections in the negative cohort. The adjusted odds ratio was 0.17 for all reinfections (95% CI 0.13-0.24) compared to PCR confirmed primary infections. The median interval between primary infection and reinfection was over 160 days.

A prior history of SARS-CoV-2 infection was associated with an 83% lower risk of infection, with median protective effect observed five months following primary infection. This is the minimum likely effect as seroconversions were not included."

See also: Public Health England (PHE) press release

medRxiv: Epidemiology of post-COVID syndrome following hospitalisation with coronavirus: a retrospective cohort study (posted 15 January 2021)

"The epidemiology of post-COVID syndrome (PCS) is currently undefined. We quantified rates of organ-specific impairment following recovery from COVID-19 hospitalisation compared with those in a matched control group, and how the rate ratio (RR) varies by age, sex, and ethnicity.

Observational, retrospective, matched cohort study. NHS hospitals in England.

47,780 individuals (mean age 65 years, 55% male) in hospital with COVID-19 and discharged alive by 31 August 2020, matched to controls on demographic and clinical characteristics.

measures Rates of hospital readmission, all-cause mortality, and diagnoses of respiratory, cardiovascular, metabolic, kidney and liver diseases until 30 September 2020.

Mean follow-up time was 140 days for COVID-19 cases and 153 days for controls. 766 (95% confidence interval: 753 to 779) readmissions and 320 (312 to 328) deaths per 1,000

person-years were observed in COVID-19 cases, 3.5 (3.4 to 3.6) and 7.7 (7.2 to 8.3) times greater, respectively, than in controls. Rates of respiratory, diabetes and cardiovascular events were also significantly elevated in COVID-19 cases, at 770 (758 to 783), 127 (122 to 132) and 126 (121 to 131) events per 1,000 person-years, respectively. RRs were greater for individuals aged <70 than ≥ 70 years, and in ethnic minority groups than the White population, with the biggest differences observed for respiratory disease: 10.5 [9.7 to 11.4] for <70 years versus 4.6 [4.3 to 4.8] for ≥ 70 years, and 11.4 (9.8 to 13.3) for Non-White versus 5.2 (5.0 to 5.5) for White.

Individuals discharged from hospital following COVID-19 face elevated rates of multi-organ dysfunction compared with background levels, and the increase in risk is neither confined to the elderly nor uniform across ethnicities. The diagnosis, treatment and prevention of PCS require integrated rather than organ- or disease-specific approaches. Urgent research is required to establish risk factors for PCS."

medRxiv: [Interleukin-6 Receptor Antagonists in Critically Ill Patients with Covid-19 – Preliminary report](#) (posted 09 January 2021)

"We evaluated tocilizumab and sarilumab in an ongoing international, multifactorial, adaptive platform trial. Adult patients with Covid-19, within 24 hours of commencing organ support in an intensive care unit, were randomized to receive either tocilizumab (8mg/kg) or sarilumab (400mg) or standard care (control). The primary outcome was an ordinal scale combining in-hospital mortality (assigned −1) and days free of organ support to day 21. The trial uses a Bayesian statistical model with pre-defined triggers to declare superiority, efficacy, equivalence or futility.

Tocilizumab and sarilumab both met the pre-defined triggers for efficacy. At the time of full analysis 353 patients had been assigned to tocilizumab, 48 to sarilumab and 402 to control. Median organ support-free days were 10 (interquartile range [IQR] −1, 16), 11 (IQR 0, 16) and 0 (IQR −1, 15) for tocilizumab, sarilumab and control, respectively. Relative to control, median adjusted odds ratios were 1.64 (95% credible intervals [CrI] 1.25, 2.14) for tocilizumab and 1.76 (95%CrI 1.17, 2.91) for sarilumab, yielding >99.9% and 99.5% posterior probabilities of superiority compared with control. Hospital mortality was 28.0% (98/350) for tocilizumab, 22.2% (10/45) for sarilumab and 35.8% (142/397) for control. All secondary outcomes and analyses supported efficacy of these IL-6 receptor antagonists.

In critically ill patients with Covid-19 receiving organ support in intensive care, treatment with the IL-6 receptor antagonists, tocilizumab and sarilumab, improved outcome, including survival."

News in Brief

As of this week, we have lost 400,000 lives to the coronavirus in the US and over 2 million globally (NPR; see also the weekly report from The COVID Tracking Project).

The New Variants

"What we now know — and don't know — about the coronavirus variants" (STAT).

What we don't know is complicated by the lack of genomic surveillance in the US and elsewhere (WashPo).

Add a Bavarian ski town hospital as another location for a new coronavirus variant (Politico).

"The most concerning versions of the virus are not simply mutating—they're mutating in similar ways" (Atlantic).

The UK one, B.1.1.7, VOC 202012/01, 20I/501Y.V1… what we call the variants is messy and adds to confusion (Nature; see also: editorial).

Tracking the B.1.17 variant: "US COVID-19 cases caused by variants" (CDC).

"Why scientists are more worried about the Covid-19 variant discovered in South Africa" (Vox).

Transmission and Mitigation Measures

With the spread of the new SARS-CoV-2 variants, it might be time to stop the optional trips to the grocery store and maybe get a better mask (Vox).

We are getting better about wearing masks and keeping our distance (but still not great) (NPR).

A doctor in Rhode Island had his license suspended for continuing to work after a positive COVID-19 test and exposing patients (Medpage).

Vaccines – Hesitancy and Disparities

On Thursday, the CDC altered its recommendations on vaccine dosing Thursday to say second doses can be given up to 6 weeks after the first (CDC).

"More than 39 million doses of vaccine have now been administered in at least 49 higher-income countries. Just 25 doses have been given in one lowest-income country. Not 25 million; not 25 thousand; 25" (WHO).

Blacks are not getting the vaccine as much as whites (KHN).

A Black doctors' group is taking steps to mitigate vaccine hesitancy and have more Blacks get the vaccine (STAT).

The language you use to talk about the COVID vaccines may improve acceptance ([de Beaumont](#)).

How to address vaccine hesitancy: 'you can't treat if you can't empathize' ([NPR](#)).

Treatments

According to data from Eli Lilly, its monoclonal antibody, bamlanivimab, prevented COVID-19 infections in nursing home residents ([STAT](#)).

"Evidence is growing that self-attacking 'autoantibodies' could be the key to understanding some of the worst cases of SARS-CoV-2 infection" ([Nature](#)).

It's All About the Data

The new administration will have to consider how it handles data ([Atlantic](#)).

We don't know how many vaccine shots are lost to waste, because not all states require reporting it ([ProPublica](#)).

Thanks, Coronavirus

Explainer: what we do and don't know about COVID-19's effect on smell and taste ([Nature](#)).

"So many people are dying of COVID-19 in LA they've had to suspend cremation limits" ([BuzzFeed](#)).

"A year after Wuhan coronavirus lockdown, trauma runs deep in China's 'Hero City'"([WashPo](#)).

Long Reads

"Patients, clinicians seek answers to the mystery of 'Long COVID'" ([CIDRAP](#)).

"How Operation Warp Speed created vaccination chaos" ([ProPublica](#)).

Other Infectious Diseases and Outbreaks

A new executive order includes a plan "establishing an interagency National Center for Epidemic Forecasting and Outbreak Analytics and modernizing global early warning and trigger systems for scaling action to prevent, detect, respond to, and recover from emerging biological threats" ([WH](#)).

Cases of measles (and deaths) have increased globally as vaccination rates have decreased ([JAMA](#); see also [MMWR report](#)).

And Now for Something Completely Different

As I was sitting here drinking my hot tea, pondering how to end this report on something nice or sweet, it hit me: Honey.

'Bee' careful, your honey might be laced with sugar syrup or adulterated in some way (Wired).

Rumors are swirling that the postponed summer Olympics in Japan are at risk as the pandemic continues (AP). What's that got to do with honey? Well, fun fact: Olympic gymnasts use honey – among other things, like melted gummy bears – as 'hand goop' to stay on the bars (Gizmodo).

And to bring it back around to the topic of this report: There is a study looking at how honey could be used to treat COVID-19 (NLM CT) and this review article about honey as therapeutic agent against the coronavirus (Heliyon).

[image source]

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